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11. The system for assembling, accessing and maintaining a portable personal inventory according to claim 10, wherein said controller is equipped for communication with other devices via one or more of a number of commonly used means

12. The system for assembling, accessing and maintaining a portable personal inventory according to claim 11, further including at least one dynamic database not associated with a barcode translation database, providing storage for data relating to a multitude of household inventory items, entered manually or by electronic means, said data consisting of identification codes representing individual items or group thereof.

REMARKS - General

By the above amendment, Applicant has rewritten all claims so as to overcome the technical rejections by removing all of the terms rendering the claims vague and indefinite.

The Rejection of Claims Under § 103

The claims were rejected as being unpatentable over Swartz et al (US 5,923,735) in view of Ogasawara (US 6,386,450) on the basis of obviousness.

The differences of the present invention render it unobvious.

The differences in features and structure between the Applicant's system and the ones suggested in the patents cited are significant, and this novel configuration of hardware and software gives rise to new and unexpected results which could not have been anticipated by someone proficient in the art, as the results are very different from those of the other patents cited.

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Swartz et al is a "Self-service Checkout System" providing "portable self-checkout communications terminal." **Swartz et al** claim that the purpose of their invention is to (a) speed up flow of customers in checkout lines, and (b) reduce the cost of checkout transactions. Although consumers can take these portable checkout terminals (owned or leased) home with them, they can only use them in connection with a retailer who provides the rest of the system that goes with these portable units.

Ogasawara's "Electronic Shopping System" stated purpose is to provide retail establishments with means to track the locations of consumers within a store, and to accumulate data about the consumers. **Ogasawara** makes no suggestion of a scanning device for the customer to own or even take out of the store. One of the embodiments of their "portable" scanner is embedded in a shopping cart.

Each of these references is complete and functional in itself, so there would be no reason to make substitutions or combine them.

Swartz et al and Ogasawara do not contain any suggestion that they be combined, as there would be no advantage to doing so. Both systems depend on communicate with a Central Computer owned by a store. The barcodes being read by a scanner are referenced to SKU codes and look-up residing in the Central Computer. Since the look-up tables relate only to merchandise stocked by the store, it makes no difference to the utility of the system whether the remote units' barcode readers are specified as being capable of reading UPC and processing SKU information and relating it to the store's SKU list (as is spelled out in **Ogasawara** (col. 7 lines 29 through 47) or left unspecified as in **Swartz et al**, which broadly specifies that "The scan module 56 contains all the components required for scanning the bar codes...Bar code scanning is well known in the art" (col. 6 lines 47 - 54). The main difference between the two systems is

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that the "portable communications terminal" in Swartz et al is also a cellular telephone, and its communication with the store's computer is via this telephone's cellular transceiver, whereas the mobile terminal of Ogasawara is "configured to communicate with a store central computer by means of an individually addressable RF communication transceiver" (col. 2 lines 39 - 41).

Not only would there be no advantage to combining the two systems, they are mutually incompatible, as their means of communication is different. Also, one of the hoped-for advantages of Swartz et al is that customers will be willing to buy or lease the mobile units, where the mobile terminals of Ogasawara are intended to remain in the store.

It is well known that for any prior-art references themselves to be validly combined for use in a prior-art § 103 rejection, *the references themselves* (or some other prior art) must suggest that they be combined. E.g., as was stated in In re Semaker, 217 1. U.S.P.Q. 1, 6 (C.A.F.C. 1983):

"[P]rior art references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining their teachings."

As was further stated in Uniroyal Inc. v. Rudkin-Wiley Corp., 5 U.S.P.Q.2d 1434 (C.A.F.C. 1988), "Where prior-art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself....*Something in the prior art must suggest the desirability and thus the obviousness of making the combination.*" [Emphasis supplied.]

In line with these decisions, the Board stated in Ex parte Levengood, 28 U.S.P.Q.2d 1300 (P.T.O.B.A.&I. 1993):

"In order to establish a *prima facie* case of obviousness, it is necessary for the examiner to present *evidence*, preferably in the form of some teaching, suggestion, incentive or inference in the applied prior art, or in the form of generally available knowledge, that one having ordinary skill in the art *would have been led* to combine the relevant teachings of the applied references *in the proposed manner* to arrive at the claimed invention. ...That which is within the capabilities of one skilled in the art is not synonymous with obviousness. ...That one can reconstruct and/or explain the theoretical mechanism of an invention by means of logic and sound scientific reasoning does not afford the basis for an obviousness conclusion unless that logic and reasoning also supplies sufficient impetus to have led one of ordinary skill in the art to combine the teachings of the references to make the claimed invention.... Our reviewing courts have often advised the Patent and Trademark Office that it can satisfy the burden of establishing a *prima facie* case of obviousness only by showing some objective teaching in either the prior art, or knowledge generally available to one of ordinary skill in the art, that 'would lead' that individual 'to combine the relevant teachings of the references.' ...Accordingly, an examiner cannot establish obviousness by locating references which describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done."

In the present case, there is no reason given in the O.A. to support the proposed combination other than the assertion that the teachings of Ogasawara would "provide Swartz et al with a more universal system wherein the system can read/scan multiple types of barcodes."

A careful reading of Swartz suggests that by not spelling out exact methodology for reading barcodes, Swartz simply made sure of having as unlimited a claim as possible on incorporating

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barcode-reading methodology. The decision to make a broad claim and the assertion that methods of reading and interpreting barcodes are well known would be attributable to the sophistication of Symbol Technology's engineers – Symbol technology, a large manufacturer of barcode readers of various kinds, being the assignee of the Swartz et al patent.

Since no advantage would be gained from combining the teachings of the two patents, even if they could be made compatible, Applicant requests that the Rejection of Claims Under § 103, on the basis of those two patents, be withdrawn.

Applicant's invention solves a different set of problems. Both Swartz et al and Ogasawara teach uses of their combined elements to solve problems of retail establishments. As set forth in the claims, Applicant's invention is "A system for assembling, accessing and maintaining a portable personal inventory". See In re Wright, 6 USPQ 2d 1959 (1988).

Neither reference addresses the needs of individuals to keep track of collections of items other than those related to a particular retail establishment. Both systems depend on communication links with a Central Computer to transfer information to any remote terminal supplied to or owned by individual shoppers. Although both patents suggest embodiments wherein there is more than one retail store participating in supplying information via their Central Computers, each such investment by a retail establishment would be a major commitment of resources not practical for many reasons. Only data about the items in participating establishments' databases would be accessible to the individual consumer. Neither invention suggests use by individuals for personal home inventory management as set out in the embodiments of the Personal Inventory Management System, and neither invention would lend itself to the task.

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The combination of elements in the present application goes beyond what any combination of Swartz and Ogasawara could achieve. Applicant's invention is supplied with *data from many manufacturers*, rather than from retail establishments. No suggestion of any such use is in either of the references. Without this feature the uses of the technology remain limited, and would not suit the purposes of Applicant's invention.

The present invention solves a long felt need: a Personal Inventory Management System is something that would be particularly welcomed by individuals who enjoy collecting items such as books, CDs and video recordings. Collectors accidentally buy multiple copies of such things because they lose track of what they actually own. Some people try to keep lists on index cards to carry with them while shopping. Some compile lists via their home computers and carry printouts with them, which need to be thrown away and re-printed as they become outdated. No satisfactory product exists to meet the needs of these people.

To give an example, a website – <http://eblong.com/zarf/bookscan/> – tells in great detail how to create software to decode UPC codes. The author of the site describes how he hand-enters this data to his computer and stores it there, not having thought of a way to take it with him.

Readerware (www.readerware.com) supplies software to let people upload data, use internet resources to interpret barcodes and create lists, but does not address list comparison.

If this invention were obvious it would have been implemented by now.

There are thousands of developers trying to come up with new and unique uses for "PDAs" (Palm Pilot or Handspring type Personal Data Assistants). The "Developers" section of Palm Pilot's web site (<http://www.palmsource.com/developers/>) claims that there are 250,000 software developers working with their operating system.

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Symbol Technology, the company that makes the barcode-reader attachment for Handspring, as well as barcode devices for many other companies, has engineering teams of its own, some of whom are represented in the patents supplied by the Examiner. These engineers are employed to make Symbol Technologies' products as ubiquitous as possible. Therefore, if these engineering teams had thought of an application for barcode readers that might appeal to a great many individual consumers rather than to a limited number of large retailers, they would have put efforts into developing and patenting any such device.

In 2001, a Symbol Technologies press release announced that "Symbol Technologies has taken the personal productivity concept of the PalmPilot™ connected organizer one step further by integrating miniaturized bar code laser scanning technology into the familiar pocketable form factor for various application-specific needs of businesses". The release also stated that there are "over 10,000 registered Palm™ solutions providers".

None of the cited patents suggests the idea of integrating the elements that the present application calls for. One crucial added element of the Personal Inventory Management System that is beyond the teaching of any of the references is provision for multiple independent sources of "look-up tables", these databases to be supplied by many different manufacturers and publishers.

Only by being brought together do these elements, in a synergistic effect, give the user a practicable way of monitoring and updating his personal inventories.

One element that the Personal Inventory Management System system omits is the dependence of the "Central Computer" called for in all of the referenced patents. By removing this dependence, the utility of the device is broadened significantly.

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The actual systems are as different as the stated goals and uses are far apart.

The "Self-service Checkout System" in Swartz et al., provides a "portable self-checkout communications terminal." Although it uses some of the technology incorporated in a Personal Inventory Management System, this technology is distributed very differently, as the aim of Swartz' system is to achieve a different set of purposes. This is also true of all of the other referenced patents.

Swartz proposes an invention to speed up flow of customers in checkout lines, and reduce the cost of checkout transactions. Although consumers can take these portable checkout terminals (owned or leased) home with them, they can only get product information via the Central Computer that communicates data to these portable units, from an individual retail establishment's data base of its own inventory. Considering that most people like to shop at many different stores, something less limited would be desirable.

Ogasawara's "Electronic Shopping System" also is designed to benefit stores rather than individuals. The stated aim of their invention is to provide retail establishments with means to track the locations of consumers within a store, relative to items they might want to purchase, and to accumulate data about the consumers buying habits. The need they perceive is "for a shopping system which will aid customers to save time and money during shopping. Such a system should give directions to the customer on items to purchase based on the customer's current location, and give suggestions on promotional items..." (Col. 2 lines 14 through 19).

This system emphasizes location, and stresses its usefulness for offering customers the precise location: "Direction and distance information i.e. aisle and shelf number of an item on his shopping list." The summary states (col. 2 – line 67; col. 3 lines 1 through 2) that "each customer's shopping list is provided to the mobile terminal in various forms *depending on the*

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technology regularly available to a customer.” One of their suggestions is that the customer email his shopping list to the store via his home computer. Another idea they have is to provide OCR so customers can bring in a hand-written shopping list. These shopping lists are to be fed into the central computer of the store, and from there into a customer’s “ID card”. Nowhere in here is any suggestion of a scanning device for the customer to own or even take out of the store. One of the embodiments of their “portable” scanner is *embedded in a shopping cart.*

This system offers advantages to retailers but doesn’t hint at potential uses in the home.

Swartz and Ogasawara both fail to teach anything resembling the uses to which a Personal Inventory Management System could be put.

An artisan incorporating the teachings of Ogasawara into those of Swartz et al could offer only an improved method for retailers to keep track of the locations and buying habits of consumers and facilitate their movements, purchases, and self-check-out within the confines of a retail establishment.

Rather than an invention to benefit a large retail establishment, the claims for Applicant’s system all specify that the units employ **“one or more data bases, to be supplied by any of a multitude of sources offering preexisting databases or from purpose-built data bases.”**

Although the O. A. attributes those characteristics to Swartz et al, (figs. 1-4; col. 5 Line 20 through col. 8 line 55), a thorough reading of the entire patent turns up no such phrases. It is possible that the examiner was quoting from the Personal Inventory Management System application instead of Swartz et al. In Swartz et al, the databases reside in the Central Computer belonging to the retail establishment; these databases do not reside in a unit controlled by the customer.

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Each embodiment in Applicant's claims offers the individual owner of the device capabilities that go far beyond the limited usefulness of a unit tied to a retailer.

The O.A. states that Swartz et al discloses a system including "...one or more editable data bases, including a plurality of inventory identification codes...". The editing of the databases is limited, on the portable end, to "Add" and "Delete" functions. All other editing of databases is to be performed in the store's Central Computer, to which the shopper has no access; the Central Computer sends data and commands to the customer's mobile device, and accesses information accumulated by it.

The "plurality of inventory identification codes" would refer to inventory codes *native to the store*. The O.A. says the Swartz system further incorporates "...software enabling access to the dynamic databases to allow them to be edited in order to keep them up to date..." but does not mention that access to those data bases is available only to those in control of the Central Computer. The updating done by the store to its databases is sent to the remote units, but the remote units have no control over the Central Computer that supplies these updates. The O.A. says these data bases can "...be queried in order to display information for the user..." but does not point out that the only product information the user can call up is information native to the store's Central Computer.

The O. A. states that Swartz et al (figs. 1-4; col. 5 Line 20 through col. 8 line 55) describes an invention that includes **"a portal for digital communication whereby the controller may communicate with other devices via one or more of number of commonly used means such as a wireless link..."**. However, even with close reading, no such wording can be found in the patent, nor any suggestion of such a portal. The portable unit is furnished with an "I/O block" which merely "represents different interface means between an operator and a portable

communications terminal. This interface contains elements for processing audible, visual, or tactile inputs and outputs to and from an operator. As shown in FIG.1, the interface may comprise a touch screen, the hard keys, a speaker and a microphone.” (col. 7 lines 18 – 23)

Other than that, the portable unit communicates only to a cellular phone network access point and the store computer, via its “telephone module” and its “cellular transceiver”: “The cellular transceiver 51 transmits and receives RF signals from the cellular network via an antenna 50 (Fig 1 reference numeral 8). The transceiver 51 uses cellular communication protocol, to transmit and receive information.” (col. 7 lines 24 – 29). Although there is mention that the link to the store’s computer could be “a hardwired communication link” (col. 7 line 61- 62), there is no suggestion at all of other ways of transferring information to and from the device.

The wording “a portal for digital communication whereby said controller may communicate with other devices via one or more of number of commonly used means such as an infra-red port, a docking cradle or a wireless link...” appears in Applicant’s original claims (claim 2, lines 14 and 15). Perhaps there has been some confusion, but none of the patents cited propose these features.

The O.A. states that Swartz et al discloses a system involving “at least one dynamic database not associated with a barcode translation database, *whereby data relating to a multitude of household inventory items*, entered manually or electronically, may be stored (figs. 1-4; col. 5 Line 20 through col. 8 line 55).”(emphasis added.) Actually, this is wording that is identical to Applicant’s original claim number 3 (lines 2 and 3). It is **not found in any of the other patents supplied, and nothing equivalent to it is found anywhere in Swartz et al or any other of the patents referred to.**

It is impossible to construe Swartz et al as including the ability for the owner of one of the invention's mobile self-checkout devices to use it to manipulate "data relating to a multitude of household inventory items". Each device is tied to the Central Computer of a shopping establishment, and has limited use apart from the shopping establishment: it functions as an ordinary cell phone, and in addition to that can scan and store bar codes from products or from coupons in conjunction with its "Add" and "Delete" keys. "Personal scan mode allows the user to scan bar codes. These bar codes may represent coupons for the items in the shopping lists, or the items themselves." (col. 8 lines 22 – 24) To make use of barcode data so obtained, "...a customer...sends an item's bar code information to the store computer and in return receives the item's price and other information." (col. 9 lines 6 – 8)

The only barcode data the customer can access using one of the portable devices is data related to the Store's inventory. Thus, if the Store is an auto parts store, the only "personal inventory" the device would be able to process would be auto parts stocked and sold by the store providing the Central Computer providing the data to go with the bar codes. The patent picks a grocery store as its example. If the owner of the related portable communications terminal wants to catalogue cans of soup he'll be fine, but he will not be able to catalogue his books.

Ogasawara explains more about the way barcode decoding works, which only makes this same limitation on *both of these systems* clearer. "...all merchandise information is maintained in a suitable format in a Price Lookup (PLU) Table which is, in turn, stored and maintained in the database (55 of Fig. 1) of a stores core server unit (50 of Fig. 1). Such a Price Lookup Table (PLU) is maintained in the central database in order that it may be easily accessed by the store manager..." (col. 6 lines 64 – 67; col. 7 lines 1 – 3). "...a PLU Table suitably comprises a merchandise specific information set.... A merchandise entry includes the store's item identifier, such as a Stock Keeping Unit (SKU) number 302, which is identified to a

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particular product's Universal Product Code (UPC) by a suitable conversion routine. An item entry further includes a text string, identified to each product, which gives the brand or trade name of the product and might include a generic description of the product..." (col. 7 lines 22 – 35) "...it should be understood that the PLU table contains an entry for each and every item of merchandise stocked by the store." (col. 7 lines 59 – 61) **because without a lookup table there isn't much a human being can do with a barcode of any kind.**

The other patents cited are, as stated, "of interest and illustrate a similar structure to a Personal Inventory Management System".

The evidence of these other patents would seem to indicate that the engineering expertise that went into their development was not coupled with the imagination to envision the possibilities that related technologies could have for personal use.

This speaks in favor of the uniqueness of thought that led to the current patent application.

Patent # 5,424,524 Ruppert et al, from 1995:

This is for a "Personal scanner/computer for displaying shopping lists and scanning barcodes to aid shoppers" and is cited by both Swartz and Osagawa. As a predecessor to both later patents, it is very similar to them in purpose, if somewhat different in application. It would seem to accomplish almost the same results that Swartz et al does. In fact, since it includes a "palm top computer" in some embodiments, it would seem to be in some ways the more advanced of the two systems. It is *not* limited to one store, in the preferred embodiment, as the communication takes place between the user's computer and the computer of a store equipped to transmit price lists and other relevant information to the individually owned devices. But the invention still

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amounts to a portable computerized shopping list, and requires the participation of computers wherever it is taken: it is not self-contained.

The "shopping cart" embodiment is the only one that solves the problem of getting multiple computers to be able to interface with each other, but that version is "for use by users who don't own their own devices."

The examiner has thoughtfully underlined passages including "generating shopping lists etc"; using "touch screen, keyboard", "bar-code scanner" "personalized shopping lists" (generated by "selecting items from pre-stored lists which list *all possible items that a shopper might want.*") Also underlined is "...lists can be expanded by scanning items that the user wishes included on the list one by one. As each item is scanned and its barcode is decoded, the identity of the item appears in subwindow 34." This patent would seem to come closer to Applicant's system than its descendents. However, since 1995, neither Rupert et al nor anyone else has put the various technological elements together in ways that yield a device that has the particular usefulness and flexibility of a Personal Inventory Management System.

This patent, while coming closer than the others, still does not envision a device that could be useful outside of limited retail contexts.

The fact that the 1995 patent envisions using scanners and computers to shop for groceries, perform price comparisons, and to compile and edit shopping lists shows that the extension to functions and features of Applicant's Personal Inventory Management System's was *not* obvious.

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Applicant's system includes processes devoted to determining if a person already has a given item. None of the other patents include such a feature.

The Personal Inventory Management System's ability to determine whether or not an item is already entered in inventory as "owned" is a feature of great value to collectors. None of the other inventors were thinking along these lines. The Applicant's system is designed to be of value to its owner no matter where he is or which store he happens to be shopping in. All its capabilities go with it. It is independent: it is not tied to any retail store's Central Computer.

One new and unexpected result of combining the elements of Applicant's system is the disappearance of major disadvantages inherent in the systems described in all of the cited patents.

The Personal Inventory Management System's freedom from dependence on a central computer makes it a vastly different proposition from the store-oriented shopping devices. The decision to own one rests on the end user, independent of major decisions by retail establishments.

Store-oriented shopping systems depend on retailers opting to make significant investments — gambling that their customers will buy and use devices, and/or that the technology will be adopted by enough retailers to become generally accepted. Such systems are based on an unwieldy paradigm in terms of *buyer acceptance*, as each retail store is likely to wait and see if others go first.

The fact that the Personal Inventory Management System has none of the problems inherent in the other patented systems can be called an **unexpected result**, and a decidedly superior one.

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A further, related benefit of the system, from the standpoint of its owner, is that he is in control of all of its communications and its data. Many people prefer to own gadgets that are not tied to a retail (or other) entity which is gathering information about them.

Though the problem of *consumer acceptance* of the kind of shopping systems depicted in the referenced patents has not been widely acknowledged, it has been demonstrated: The "Cue Cat" illustrates the kind of backlash that can kill a scheme for gathering information by offering consumers a barcode scanning device to help them shop. Though the Cue Cat was actually given away free of charge in Radio Shack stores, when word got out that it functioned as a data collection device (as do the ones proposed by Schwartz and Ogasawara), people became suspicious and resentful. The other harsh reality that made the Cue Cat non-viable was that consumers found that, though it was designed to appeal to the conglomerates that wanted to interest consumers in using it, it really was of very little utility or interest, because its functions (from the consumer's standpoint) were minimal. Numerous web sites are devoted to vilification of the Cue Cat.

Another unanticipated and surprising result of combining technologies as suggested in the Personal Inventory Management System application is that of increasing the usefulness of items people already own, which none of the cited patents does.

Many people already own PDAs. Applicant's system in an embodiment utilizing a PDA would give enhanced usefulness to products that people already own.

Patent # 5,484,991 Sherman et al 1996:

This patent is for a "Portable modular work station". A "Data collection apparatus", it comes in a carrying case, includes a printer, and can be attached to a shopping cart. It includes a holder

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for something "such as a bar code scanner". This is a primitive device not very closely related to Applicant's system.

Patent # 5,821,513 O'Hagan et al 1998

"Shopping cart mounted portable data collection device with tethered dataform reader." This is a device permanently associated with one retail location, not individually owned.

Patent # 5,979,757 Tracy et al 1999:

"Method and System for presenting information using a portable data terminal"

An "improved portable shopping system," it provides an "improved data presentation system" to customers via "portable terminal" to customers in a store, at their shopping cart. It provides "improved multi-media support and direct marketing functions."

It appears to be an enhanced "self-checkout system". It relies on a "Central Computer" which it contacts via radio. The "invention may be utilized in any data collection environment in which data is communicated from a central host to an end user employing a portable data collection terminal." The system tracks the customer, and the Central Computer stores data.

The system is integral to one establishment, and the bar-code readers are *not* intended to leave the premises.

The assignee of this patent is Symbol Technologies, the manufacturer of bar code readers.

Patent # 6,101,483 Petrovich et al 2000:

"Personal shopping system Portable Terminal"

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This is a *home* and "shopping establishment" system.

This patent is also assigned to Symbol Technologies. It illustrates the progression of that company toward refining its store-based portable shopping terminals. (Swartz, also assigned to Symbol Technologies, is from 1999.) The customer gets a device to take home, the modes of communication are somewhat expanded, and -- significantly -- there is a capability for the customer to, theoretically, use his personal scanner to interface with more than one store.

However, the system still relies on a Central Computer, which is owned by the Shopping Establishment, and which stores information about the customer. If a customer deals with *two* stores that means his portable terminal is communicating with two different Central Computers, which store data related to his purchases independently.

Each embodiment of the "system includes a host computer coupled to a host modem, and *at least one shopping establishment kiosk cradle.*" (col. 2 line 17))

So even though "the memory of the portable terminal can be configured to store multiple lists of data associated with the barcodes, as multiple shopping lists corresponding to multiple shopping establishments," the consumer is still dependent on retail establishments individually deciding to adopt this system and employ a host computer, because the portable terminal can't do much without a transfer of data with *each individual store's* Central Computers.

If a consumer decided to shop at three bookstores, he would have, first of all, to convince all of the bookstores to adopt the system, then get an ID card from each one. He wouldn't be able to do price comparisons between stores except from home. The only places he could access data would be in one of the stores -- and then he'd only have access to that store's data base -- or at

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home, where he could go on line with any of the three, at their respective sites. He still wouldn't be able to keep track of a book collection, as that is **not a feature offered in these devices**.

The "home data transfer circuit 36 supplies host computer 16 with *the data associated with the bar codes of the shopping-related items...*" "The portable terminal" involved in Petrovich's system "...may be *too small to have a display.*"

This rather helpless portable terminal is clearly not conceived in terms of being of use to a person beyond the narrowest confines of retail establishments and their interests.

The applicant is grateful to the examiner for providing all of the above referenced patents. They clarify the current state of developments for portable devices that read bar codes, suggesting evolution falling short of implementation useful to an individual on a personal basis.

No combination of these systems could yield the benefits of the Applicant's system.

Combining all the data-processing the capabilities of Swartz self-checkout system with the those taught by Ogasawara could result in a device dependent on a Central Computer, provided with very few capabilities beyond the confines of one store. Combining these patents with Petrovich et al gets the home computer involved.

If the above were combined with Ruppert et al, which includes a "palm top computer" in some embodiments, it would appear to be more closely related to Applicant's system. However, even still, *no combination* of these patents yields a device independent from store computers. All the devices are firmly embedded in the context of shopping. They are at best portable computerized shopping lists requiring the participation of computers wherever they are taken.